

upon the gum and juices on the surface of the fruit, and seems to have the power of making use of solid substances by means of saliva ejected from the mouth. The solid substances are dissolved in the saliva and then sucked up by the fly. The foregoing facts are important to keep in mind, since on them our control measures are based.

The eggs are deposited beneath the skin, within the pulp of the apple and hatch in about six days. The time spent in the larval state varies greatly according to variety, temperature, etc. Larvae keep emerging from the apple during the latter part of August, September and October, and many are caught undeveloped by the frost in November. The work of the maggot causes the apples to fall prematurely and we have never known of a case in which the larva emerged from the fruit while it was still on the tree. The larvae enter the soil for a short distance, where they transform to pupae, in which state the winter is passed. Strange to say a large proportion of the flies do not emerge the next season, but pass another year in the pupal state before emerging.

Work of the Larvae in the Fruit.

Immediately upon hatching the maggot begins to work in the pulp of the apple. Although there is no true head, there are two strong chitinous hooks on either side of the mouth, with which the maggot rasps the cells of the apple pulp. The liberated juices are then absorbed and the dead cells turn dark, forming the brown tunnels. In the case of the apples that are still growing when the eggs are laid, the work is later indicated by corky strands extending through the pulp, as the tunnels are quick to heal over after being made.

As the fruit begins to ripen the maggots grow rapidly and extend their tunnels in every direction, until frequently the fruit becomes completely honey-combed by their work. In many cases, barrels of apparently sound fruit have been shipped in entire ignorance of the fact that they contained maggots, which, when they reached their destination, were reduced to a rotten, spongy mass. This was due to the fact that the apples had commenced to ripen in transit, thus accelerating the development. Needless to say fruit infested with maggots is quite useless for marketing purposes. Even the evaporators refused fruit from orchards known to be infested.

The work of the apple maggot is frequently confused with that of the codling moth or apple worm, though in reality there is little resemblance. The codling moth